



(11) **EP 2 224 635 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**05.01.2011 Bulletin 2011/01**

(51) Int Cl.:  
**H04L 5/00** (2006.01) **H04H 60/06** (2008.01)  
**H04L 1/00** (2006.01) **H04N 7/24** (2011.01)

(43) Date of publication A2:  
**01.09.2010 Bulletin 2010/35**

(21) Application number: **10166222.9**

(22) Date of filing: **19.12.2008**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT  
RO SE SI SK TR**

Designated Extension States:  
**AL BA MK RS**

(30) Priority: **02.01.2008 US 18664 P**  
**17.01.2008 US 21875 P**  
**15.12.2008 KR 20080127314**

(62) Document number(s) of the earlier application(s) in  
accordance with Art. 76 EPC:  
**08172464.3 / 2 079 183**

(71) Applicant: **LG ELECTRONICS INC.**  
**Yeongdeungpo-gu**  
**Seoul 150-721 (KR)**

(72) Inventors:  
• **Hong, Ho Taek**  
**Seoul 137-724 (KR)**  
• **Ko, Woo Suk**  
**Seoul 137-724 (KR)**  
• **Moon, Sang Chul**  
**Seoul 137-724 (KR)**

(74) Representative: **Cabinet Plasseraud et al**  
**52, rue de la Victoire**  
**75440 Paris Cedex 09 (FR)**

(54) **Apparatus and method for transmitting and receiving an OFDM broadcasting signal**

(57) The present invention relates to a method of transmitting a broadcast signal comprising encoding a Physical Layer Pipe, PLP, by a forward error correction, FEC, scheme; building a signal frame including a preamble and the encoded PLP, modulating the signal frame by an Orthogonal Frequency Division Multiplexing, OFDM, method; and transmitting the modulated signal frame. The preamble includes Layer-1, L1, signaling in-

formation and a network information table, NIT, the NIT including a descriptor which includes an identifier of the PLP.

An inter-related method of receiving a broadcast signal, as well as inter-related apparatuses are also described.

**EP 2 224 635 A3**



## EUROPEAN SEARCH REPORT

Application Number  
EP 10 16 6222

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 03/045054 A1 (NOKIA CORP [FI]; KALLIO JARNO [FI]; VAERE JANI [FI]) 30 May 2003 (2003-05-30) * page 2, line 10 - line 15 * * page 10, line 15 - line 30 * * figure 4 *	1-15	INV. H04L5/00 H04H60/06 H04L1/00 H04N7/24
X	KUTSCHER D ET AL: "Service Maps for Heterogeneous Network Environments", IN PROCEEDINGS OF THE IEEE 7TH INTERNATIONAL CONFERENCE ON MOBILE DATA MANAGEMENT, 10 May 2006 (2006-05-10), pages 27-37, XP010917884, JAPAN DOI: DOI:10.1109/MDM.2006.143 ISBN: 978-0-7695-2526-6 * subsection 5.1 *	1-15	
X	WO 2005/022811 A (QUALCOMM INC [US]; VIJAYAN RAJIV [US]; KHANDEKAR AAMOD [US]; LING FUYU) 10 March 2005 (2005-03-10) * paragraphs [0003], [0007] - [0009] * * paragraphs [0034] - [0036], [0039] * * paragraphs [0042], [0103] * * figures 1,2,10 *	1-15	TECHNICAL FIELDS SEARCHED (IPC)  H04L H04H H04N
X	"Digital Video Broadcasting (DVB); DVB specification for data broadcasting; ETSI EN 301 192", ETSI STANDARDS, LIS, SOPHIA ANTIPOLIS CEDEX, FRANCE, vol. BC, no. V1.4.1, 1 November 2004 (2004-11-01), XP014026918, ISSN: 0000-0001 * sections 4.1, 4.2, 8.2 * * section 9.2 *	1-15	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 26 November 2010	Examiner Anghe1, Paul
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

 3  
EPO FORM 1503 03.82 (P04C01)



## EUROPEAN SEARCH REPORT

Application Number  
EP 10 16 6222

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2007/143655 A1 (NIU HUANG [US] ET AL) 21 June 2007 (2007-06-21) * the whole document * -----	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search <b>The Hague</b>		Date of completion of the search <b>26 November 2010</b>	Examiner <b>Anghe1, Paul</b>
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... &amp; : member of the same patent family, corresponding document</p>			

3  
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 16 6222

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-11-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 03045054 A1	30-05-2003	AU 2002342939 A1 EP 1459529 A1 FI 20012245 A	10-06-2003 22-09-2004 20-05-2003
WO 2005022811 A	10-03-2005	AR 045556 A1 AU 2004302856 A1 BR PI0414065 A CA 2537534 A1 CL 22302004 A1 EP 1685670 A2 JP 2007525102 T KR 20060132557 A MX PA06002405 A RU 2368083 C2 US 2005058089 A1	02-11-2005 10-03-2005 24-10-2006 10-03-2005 03-06-2005 02-08-2006 30-08-2007 21-12-2006 20-06-2006 20-09-2009 17-03-2005
US 2007143655 A1	21-06-2007	NONE	